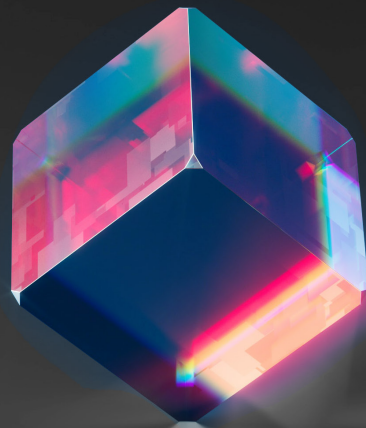


# Why some and not others?

*Executive perspectives on the varying scope of digital transformation in legacy organizations*



Master's Thesis - Executive Summary

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# Introduction

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At this time, individuals, organizations, and societies are experiencing the fourth industrial revolution (4IR) at an increasingly rapid pace.

New disruptive technologies are continuously emerging causing shifts in behaviours and mindsets. Although, it is still unknown to what extent various digital technologies will have an impact, it is clear that individuals in organizations and societies need to understand and adjust to the emerging disruptive technologies

## Key point:

In the digital era, business leaders of legacy businesses recognize that they can no longer rely on capturing value through traditional approaches without applying digital technologies.

The report presented here summarizes the findings of a recent study exploring executive perspectives on the varying scope of digital technology disruption in established organizations. These organizations, referred to as legacy organizations, have existed for several decades and, in some cases, centuries – creating value, and profit, through longstanding legacy processes and mindsets. In addition to the often significant financial resources possessed by these organizations, they have accrued valuable experience, knowledge, and reputational capital over many years.

**Key point:**

Understanding and exploring how executives make sense of varying scope of digital transformation facing their legacy institutions, helps us to identify the capacity and ability of legacy organizations to adapt to disruptive digital technologies.

Nevertheless, in the digital era, business leaders of legacy businesses recognize that they can no longer rely on capturing value through traditional approaches without applying digital technologies. Understanding the digital transformation from an executive perspective, provides valuable knowledge by better understanding the drivers leading to enduring the digital transformation journey.

We read and hear about digitalization and digital transformation in many organizational contexts today. But how much do we really know about executive understanding of the various types of digital technologies? What we do know, with a degree of certainty, is that businesses are being disrupted by the advancement of digital innovation. Adaptiveness and responsiveness are crucial for survival. Therefore, it is important to understand and explore how executives make sense of the varying scope of digital transformation facing their legacy institutions. Understanding such a phenomenon through the lens of the executives, helps us to further identify the capacity, and ability, of legacy organizations to adapt to disruptive digital technologies.

This report adopts a framework based on the findings of previous studies concerned with the application of digital technologies in organizations. The primary source of the data is gathered from 9 in-depth interviews with executives responsible for leading digital transformation in legacy organizations. The executives in this study represent multinational organizations from a variety of different industries and are, in some cases, household names. They include Aramex, Ericsson, Loomis, Skanska, Stena Line and Royal Jordanian Airlines. The findings of the report are centred on one critical question: what makes some organizations more able to embrace industry wide disruptive technology than others?

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# Strategic digitalization and business model innovation

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In recent years, firms have striven to be digitally innovative. Some approach the process of digitalization willingly, while others are obliged to be digitally innovative in order to survive. The transformation of the legacy business – which must take into account its resources (tangible and intangible) – should be adjusted to continuously add value to customers. To achieve this, adaptiveness and resilience are integral to the transformation.

Legacy organizations have historically thrived through their core services and products. However, if they do not take advantage of new opportunities to provide value to customers, other businesses will. The capacity to seize an opportunity to advance and create new value during any kind of disruption requires organizational resilience<sup>1</sup>, which is the ability of an organization to anticipate, respond, and adapt, in order to survive.

Business model innovation occurs on three levels in the organizations. First, it can be initiated at the strategic level through planning. Second, at the architectural level, where value is created and captured by providing unique value

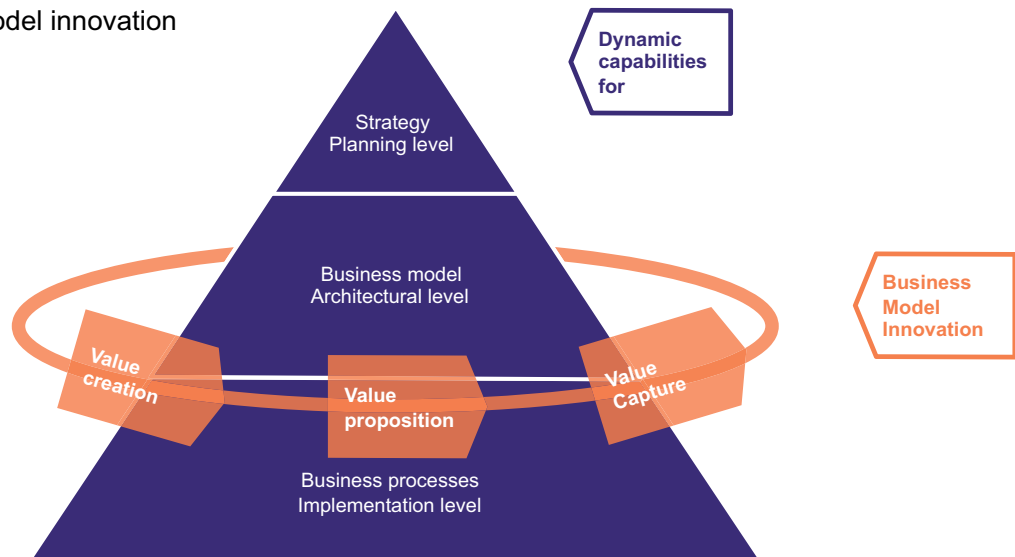
## Key point:

Legacy organizations have historically thrived through their core services and products. However, if they do not take advantage of new opportunities to provide value to customers, other businesses will.

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<sup>1</sup> Denyer, D. (2017). Organizational Resilience: A summary of academic evidence, business insights and new thinking. BSI and Cranfield School of Management.

Figure 1 - Business model innovation



Business model innovation Rachinger et al. 2018.  
Modified by Juna Jumaa



propositions to existing and potential customers. The third level (implementation) includes business processes and operations. Creating an alignment between planning on the strategy level and the implementation level is crucial as the alignment is reflected through the value created to meet customers' need. As seen in figure 1.

The collaboration between the three levels is crucial to determine the organization's ability to rapidly change and adapt to disruption in order to survive. Value creation through various disruptive technologies requires integration at all levels of the organization. Legacy organizations must cultivate flexibility and embrace agility in order to pivot in times of disruption:

*“We know that we need to transform the organization by making it 100% digital, in order to continue in the pace of innovation. We do not really know the future so the only thing we can do is to be flexible and fast, and that will determine our survival in the future.”*

*- Director Automation & AI Innovation*

Executives responsible for leading transformations in their organizations must ensure their decisional processes and outcomes are embedded in a solid appreciation of the capabilities of digital technology. Therefore, understanding digital technologies is essential when leaders plan to transform businesses and generate business model innovation. As organizations are vastly different, what fits in one organization may not always be applicable elsewhere:

*“In the digital era, actual knowledge has shifted from being informative to transformative, hence learning in businesses has shifted from a push to a pull approach.”*

*- Chief Executive Officer*

Digital transformation requires implementation throughout a business's processes. While strategic formulation is difficult, implementing and executing strategies within the organization is far more difficult. As legacy organizations become challenged by emergent disruptive technologies, the adaptive capability and resilience of an institution play a significant role in providing a foundation for successful transformation:

*“Suddenly, people are asked to do things differently, which is really challenging because they have a bias against the new idea, and they have the expertise in what they are doing today. It is psychologically not comfortable.”*

- Director Automation & AI Innovation

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# Institutionalism and strategic transformation

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Figure 2 – AI Innovation  
Maturity Index



AI Innovation Maturity Index. Source:  
Gradient Descent and RISE (2020).  
Modified by Juna Jumaa



Emphasizing the extent of challenges in the area of strategic execution, Gradient Descent AB, in collaboration with RISE (Research Institutes of Sweden), generated a model of AI adoption called the AI Innovation Maturity Index (2020), as seen in figure 2.

Creating an integrated digital transformation requires interaction between strategy, technology, and the organizational culture. Mindset is the intangible resources that shape the intellectual capacity, which enables adaption to a sustainable integration. We are surrounded by tremendous amount of data in different

structures. Understanding and incorporating the relevant data plays an important role in creating an integrated digital transformation. Ecosystem which includes communication with internal and external stakeholders is built on the degree of knowledge and integration of digital technologies in the organization.

Executives interviewed in the course of this report, emphasized the critical aspects of culture, and mindset of the legacy organization, to effective digital transformation during the interviews:



*“Technology is only a small part of the transformation. It is actually a cultural thing that we need to align or realign.”-  
The participant added “I personally like to make myself useful by learning new things every day and contributing to the organization.”*

*- Director Automation & AI Innovation*

*“There are many people saying that 80% of the digital transformation is about people. If that’s true, I don’t know if it can be different in different companies. If that is true, then communication plays an important role.”*

*- Chief Transformation Officer.*

On the whole, executives agree upon embracing a trustworthy integrated digital transformation through embedding technology with strategy and culture in their legacy organizations. The incorporated digital transformation impacts not only the organizations’ internal stakeholders, but also its external stakeholders, creating an ecosystem. One of those executives interviewed highlighted that transforming their legacy organization was a reaction to the shift of the external environment structure:

*“When the cloud was introduced to technologies, things were no longer the same. We were no longer competing with large traditional businesses; our competitors became the small and medium-sized organizations that were built on the cloud.”*

*- Chief Technology Officer*

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# Creating Value by Knowledge

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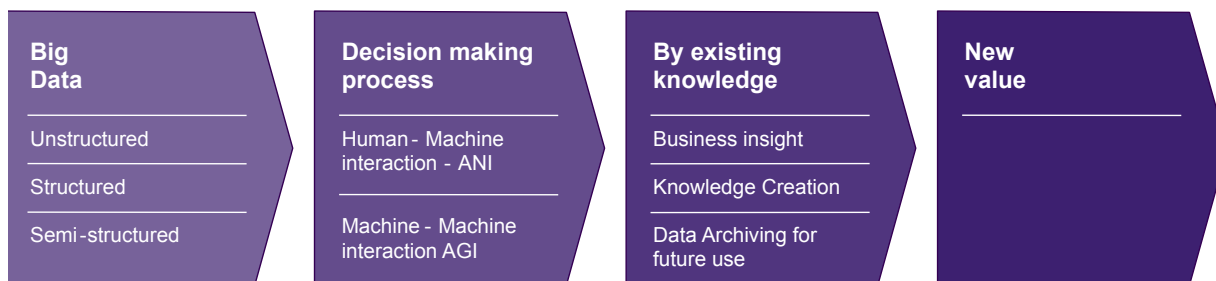
Digital technologies have a broad range of applications and can contribute to value creation both directly and indirectly. In order to fully take advantage of digital technologies, it is necessary that organizations embrace the possibilities and challenges presented by such innovation, and ensure it becomes an embedded feature of strategic development activity. However, given the institutional arrangements that make up many legacy organizations, embedding digital innovation continues to represent a great challenge:

*Traditionally, there is always a list of ROI (return on investment) calculations that need to be done, to show the break-even point and how much we can earn. While there are lots of unknowns when you step into transformation. If we do not differentiate between them, it is very hard to justify and get approval for any type of transformation.”*

*- Chief Innovation Officer*

Previous studies have demonstrated that value creation occurs through interaction between machines (technologies) and humans, as seen in figure 3. We are surrounded by tremendous amounts of data in different forms. Business leaders make decisions based on available data provided by digital technologies. At the same time, there needs to be greater awareness of which data is relevant to the question of where value might be created for the business - as there is no one-size-fits-all when it comes to embracing digital technologies.

Figure 3 - Creating value by knowledge



Creating value by knowledge. Source: Gupta et al. 2018.  
Modified by Juna Jumaa

*“For the mission of transformation, we partnered with vendors and technology suppliers. This happened because we wanted to transform rapidly, so we chose partners that had big potential and very strong resources.”*

*- Chief Technology Officer*

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# Digitize vs. digitalize

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At heart, the impact of digitization and digitalization in business is implicitly related to the understanding executives have of digital technologies. Business leaders choose to digitize or digitalize business models based on their knowledge of what might be achieved. Many of those interviewed for this study appeared to share an appreciation of the significance of the relationship between understanding and adaption of digital technologies in business:

*"If you ask an outstanding business leader on what they would like from digital, they will have limited knowledge on what technology can provide them with. A sales manager, who is very skilled in sales, would not have enough knowledge on what technologies can offer the organization. Instead, the sales manager will ask for a function that automates some part of the sales function, that is digitizing the business. In order to truly digitally transform the business, a salesperson needs to understand how AI technologies applied in sales forecast can be used to generate forecast."*

- Chief Transformation Officer

The research also revealed that the decision of whether to digitize is not only based on executives' understanding on the topic but, also, the tendency of executives to adopt digital technologies that address immediate or current requirements of the organization. Hence, generating new value through innovation is compromised by short-term plans:

*"In our industry, every department has its own plan and timeline which do not intersect each other. However, if I will be given a chance again to redo digitalization in the organization, I would create an integrated interface among the organization."*

- Director Fleet and Network Planning

Another important finding from the interviews was related to the purpose of undergoing the transformation in the first place. Executives emphasized two drivers, in particular, that were motivating digital adoption of their businesses - cost efficiency and customer solutions:

*"It is important to define the purpose of why we are digitally transforming. We need to find synergies when we want cost efficiency and scalability. While we need to work close to customers to find customer solutions."*

*- Chief Transformation Officer*

*"We conducted a large number of interviews with our customers to verify our theories and assumptions before modifying our digital business model."*

*- Head of Operations*

Enduring the digital transformation journey entails implementing new knowledge and new value in legacy organizations. With their established practices, and workforces, legacy organizations tend to reflect a high degree of homogeneity, which can present an obstacle to the adoption of new knowledge:

*"We have two approaches to work with new things, it is either having a certification or having a training. When both aspects are covered, it is much easier to get funding and support from the leadership."*

*- Head of Digital Innovation*

*"The relationships internally are very important; they are the key. Everything has to do with either development or innovation and has to be sold internally to get business sponsors and to deliver what they are asking for to build trust."*

*- Head of Digital Innovation*

Interviews revealed the essential tension facing executives considering more transformational digital adoption – namely that the core business, and source of profits, remains the foundation of the organizations' present wellbeing:

*“Core business is core business, and it has a long history. For the future we need to understand that the world is changing so we need to have a new approach. I think there is a lot of opportunities for us in the area of digital technologies and I think we need to take it slowly and see where it goes.”*

*- Head of Digital Innovation*

Adopting various digital and innovative technologies is an investment. Hence, expectation of profitability increases with the increased level of investment and the scalability of innovation. As this naturally requires time and long-term planning, executives tend to choose smaller-scale, more incremental, digital technologies. Often, implementation in present business processes leads to cost reductions and efficiency but will, ultimately, not generate value through a new business model. In short, businesses choose to digitize their processes instead of digitalizing them, which makes them less agile and responsive to more fundamental disruptive technologies.

The speed of adoption also very much depends on the necessity of the situation i.e., the more disrupted the legacy is, the more responsive and agile it becomes. The findings of the research support the view that, over time, legacy organizations reach a point where responsiveness is crucial in order to survive.

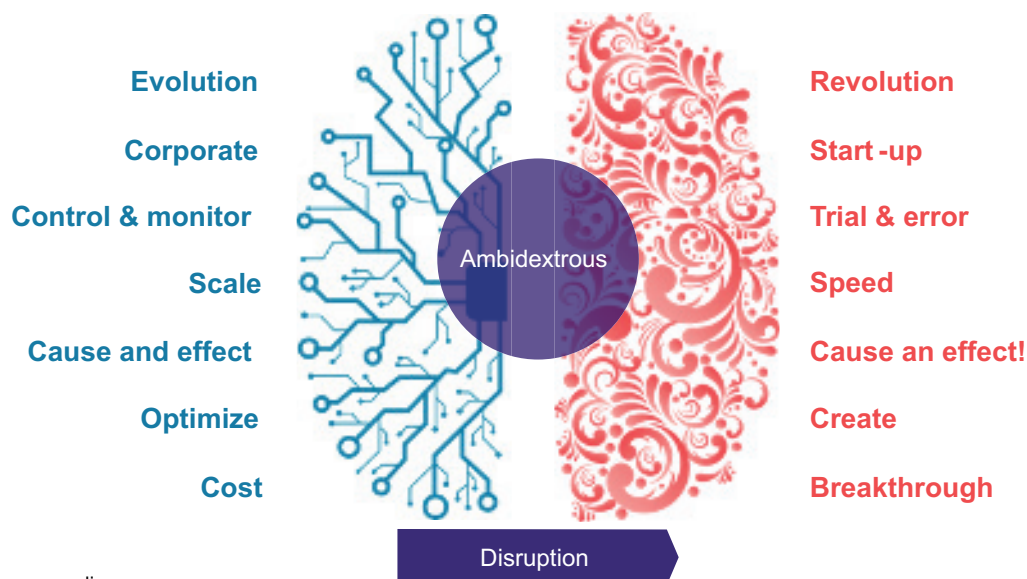
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# Organizational Ambidexterity & resilience

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The interpretation of the findings indicates that executives seek to apply various digital technologies to refine the core business, while at the same time strive to explore new opportunities. Hence, the report indicates that there is an association between digital transformation and the concept of organizational ambidexterity. Organizational ambidexterity<sup>2</sup> is achieved through balancing *exploitation* the current business model to seize opportunities (left side) and *exploration* opportunities to create new forms of value (right side) – see figure below.

Figure 4 - Organizational ambidexterity



Ambidextrous a new paradigm  
for organizational success by Lerner et al. 2018

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<sup>2</sup> O'Reilly III, C., & Tushman, M. (2004). The Ambidextrous Organization.  
Harvard Business Review.





*“We are at a stage of looking into how both existing and the disruptive business models can co-exist and how they can benefit from each other, as we will come from different angle than many of our future competitors in this business. If we fail in utilizing what we have, then it will only be another start-up.”*

*- Chief Innovation Officer*

Achieving organizational ambidexterity requires considerable resources and capabilities, not to mention extensive support from the management, employees, and other stakeholders. Unfortunately, it can be difficult to achieve as executives are aware of the time and effort required to achieve both tangible and intangible results. Therefore, legacy businesses are frequently trapped in an “ambidextrous dream”:

*In any new business, in the start you will have a relatively high overhead cost and should expect to have negative result during the first couple of quarters before you get the profit. In core business, this is usually not allowed. At least not in a large company. If you run a start-up in a large company context, it is important to understand and accept that this will cost money in the beginning and there is a risk combined with it.”*

*- Chief Innovation Officer*

*“Moving into the digital business will be achieved through acquisition or mergers, because we do not have the infrastructure, the structure and the knowledge to do it by ourselves. Hence, I cannot see that it can be done in any other way.”*

*- Head of Operations*

The research highlighted another interesting aspect related to resilience and pivoting of businesses during challenging times. Respondent executives emphasized the importance of handling the uncertainty associated with the exploration of new business opportunities:

*“We are flexible to change. We do not only operate in established market, where we are the giants. We always go into difficult markets and those difficult markets come with challenges, we have to be responsive and disruptive.”*

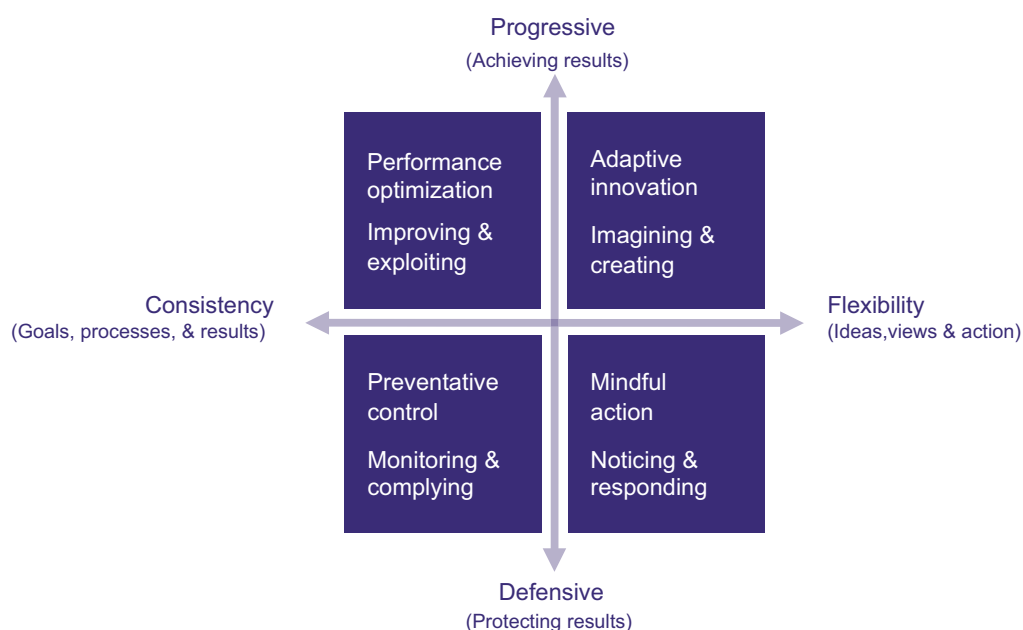
*- Chief Technology Officer*

*“I was appointed by the CEO to lead the transformation, as an entrepreneur who came from a digital environment. I also think there is a belief that certain people have the ability to get something done. I suppose that what happened in my case.”*

*- Chief Transformation Officer*

Similarly, executives shared similar perceptions of the importance of entrepreneurial leadership and the positive impact of resilience when enduring the digital transformation journey.

Figure 5 - The organizational resilience tension quadrant



By BSI and  
Cranfield School of Management 2017



According to a report conducted by BSI and Cranfield School of Management (2017), research on organizational resilience has, to date, been characterized by contributions in four main areas, as illustrated in figure 5. The resilience tension quadrant. When executives can strategically balance these four different approaches to resilience, they reach to the fifth and most important state, which is Paradoxical thinking<sup>3</sup>.

This study suggests that the legacy organizations' approach to resilience is largely limited to preventive control through monitoring and complying with institutional systems. In addition to the resilience approach of Performance optimization, which was clearly shown in the

legacies' willingness to improve and exploit. The study addresses the main question of why some, and not others? The findings shed light on the strategic aspects of digital transformation such as profitability, knowledge, and digitization vs. digitalization. Nevertheless, change management played a significant role in leading and steering legacy organizations, during the digital transformation journey. Digital transformation, or business transformation of any kind, entails change in individual mindsets, perspectives, and attitudes, towards the new approach. The study concludes that what organizations really need to achieve is a state of organizational ambidexterity in order to better cope with uncertainty that comes with rapidly changing environmental conditions.

<sup>3</sup> Denyer, D. (2017). Organizational Resilience: A summary of academic evidence, business insights and new thinking. BSI and Cranfield School of Management.

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# Achieving Organizational Ambidexterity & resilience

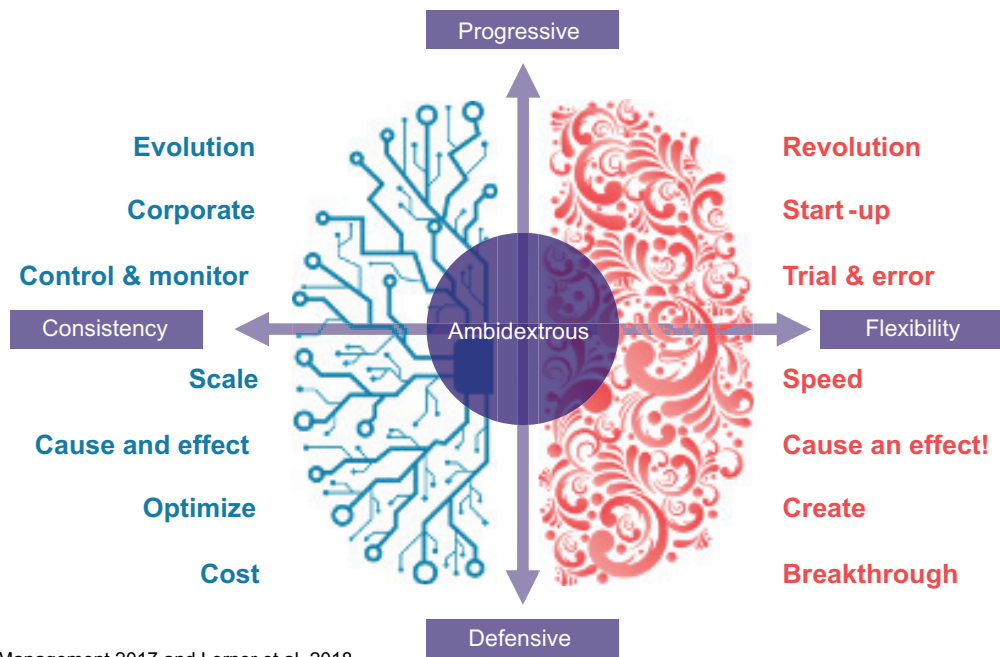
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The findings of the study indicate that only a slight part of the digital transformation journey is about digital technology. The most important part of embracing the digital transformation relies on the people and the individuals in the organizations.

The executives interviewed in this study agreed that the main challenge is in realizing the necessity to adapt and change before change becomes the only way to survive. Hence, the study has generated a model, based on the earlier work of Denyer, D. (2017) and O'Reilly III, C., & Tushman, M. (2004), to help organizations move toward adaptability while still having the opportunity to protect the core of the legacy organizations, as seen in figure 6.

As the study indicates, most organizations apply digital technologies through exploitation in optimization and cost reduction, while the potential for further reaching value creation opportunities is often ignored. It seems that what organizations need is the ability to pivot and balance among these four phases to reach the phase of paradoxical thinking. Organizations therefore need to create a culture of openness toward change, which requires embedding change management within the

Figure 6 - Achieving organizational resilience & ambidexterity



By BSI and Cranfield School of Management 2017 and Lerner et al. 2018.



organizational culture. Digital transformation is a trend that has disrupted the structure of the legacy systems. The wide disruptive technologies are the means to achieve strategic objectives and should not be seen as the goal itself. Enduring the digital transformation journey is beyond adding a digital component to the legacy's business models. It requires creating an adaptive organizational culture to withstand leading organizations through the unknowns.

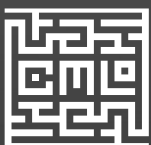
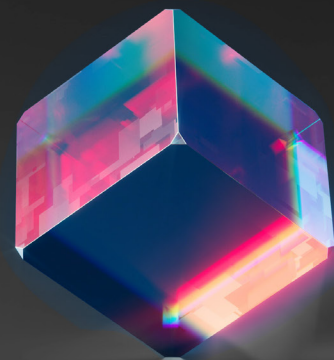
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